

## BOOK REVIEW

WILLIAM A. WEBER and RONALD C. WITTMANN. 1996. **Colorado Flora: Eastern Slope (Revised Edition)**. (ISBN 0-87081-387-0, pbk). University Press of Colorado, Niwot. \$29.95, xl + 524 pp. **AND:** WILLIAM A. WEBER and RONALD C. WITTMANN. 1996. **Colorado Flora: Western Slope (Revised Edition)**. (ISBN 0-87081-388-9, pbk). University Press of Colorado, Niwot. \$29.95, xxxvii + 496 pp.

William Weber is a veritable Roger Tory Peterson of Colorado Botany, given his fifty year output of user-friendly identification manuals and his concomitant influence in popularizing the identification of a regional biota. The nearly inevitable results of such guides are an increased awareness, appreciation of, and concern for the continued viability of local species. These recently published volumes are revisions of earlier works written by Weber alone (Weber 1987, 1990) and are of considerable merit. Given their striking similarity in overall format it seemed appropriate to review both simultaneously.

The volumes are remarkably similar to their predecessors (Weber 1987, 1990) and follow a sequence of Preface, Introduction, Key to Families, Ferns and Fern Allies, Gymnosperms, Angiosperms, Figures, Glossary, Index to Common Names, and Index to Scientific Names. The hydrologic Continental Divide separates the geographical ranges covered by these volumes. The Eastern Slope flora treats approximately 2300 species, whereas the Western Slope flora covers some 2100 species. Intraspecific taxa, not included in their floristic summaries, are included in the text.

The Preface in both manuals is nearly identical. Dr. Weber notes with satisfaction his own influence on the increased appreciation and study of botany in Colorado. His contributions are substantial, but the volumes lack acknowledgments and literature citations, and the section on eponymy by itself seems somewhat insufficient as a tribute to the work of earlier botanists. I am happy to see the authors flying a warning flag regarding the deleterious effects of invasives on native vegetation, an increasing worldwide problem and recent symposium topic in California. One major conduit for the spread of invasives not mentioned by the authors is the turning of the soil during the creation of fire lines in fire fighting efforts (Snow 1992–1994: 62), a factor that land management agencies may wish to add, however slightly, to their overall considerations of fire policy.

The Introductions are long. However, for those new to the joys of wildflowers and plant identification the Introductions provide a good summary of a wide body of information. Both volumes begin with "Scope of the Book" and "The Eastern [or Western] Slope", wherein physiognomic provinces are defined. For example, the Eastern Slope describes: The High Plains, North and South; The Mountain Front; The Intermountain "Parks"; North Park; South Park; The San Luis Valley; The Sawatch Range and Upper Arkansas Valley, and The Wet Mountain Valley and Spanish Peaks. These categories are followed by discussions of Floristic Zones, Plant Geography, Endangered Habitats, Rarity, Revegetation, Alien Plants, Some Floristic Statistics, How to Learn to Recognize the Big Families, Families with a unique character, Common Names, Pronunciation, Miscellaneous Notes, How to Collect and Preserve Botanical Specimens, The Importance of Voucher Specimens, Collecting Ethics, Plant Identification, How to Use the Keys, and "Eponymy. Botanists honored in Colorado Plant Names". The authors' attention to user-friendliness is evident in "How to Learn to Recognize the Big Families" and "Families with a Unique Character".

One oversight in "How to Collect and Preserve Botanical Specimens" was their neglecting to mention the now increasingly common use of Global Positioning Systems (GPS) systems to pinpoint collection localities on labels, and the importance such data will have for use with Geographical Information Systems (GIS).

Within each major category (Ferns and Fern Allies, Gymnosperms, etc.) the taxa are arranged alphabetically by family and by genera within families. The family and generic descriptions may include interesting information such as: hints for identification; geographical ranges; medicinal, ornamental, and folk uses; and, among other things, invitations to botanize!, like their suggesting where the rare *Cryptogramma stelleri* might be discovered (Eastern Slope volume). The species descriptions are brief and emphasize information relevant for diagnostic purposes. Taxonomic authorities, common names, and geographic ranges are included. I have not used the present volumes in the field, but based on personal experience during a ten year residence in the Rocky Mountain region, I found the Key to the Families of earlier editions easy to use.

Interspersed in the Eastern Slope are two sets of 32 color photographs, whereas the Western Slope has four sets of 16 photographs. The sets have no apparent taxonomic or other logical arrangement such as flower color (popular in some guides), but in most instances the photos are crisp. The Eastern slope text is followed by 103 black and white plates prepared by Ann Papageorge, Carolyn Ensle, and Harold Roberts, nearly all of which illustrate more than one species. The companion volume of the Western Slope has 107 plates (sixteen of which are the fourth set of color plates mentioned above).

The only obvious printing problems I spotted were large columnar gaps in the Index to Scientific Names (pp. 488, 492, 494) and fuzzy text (p. 471) in the Western Slope manual.

The biggest concern with these volumes, like their predecessors, is the extensive use of generic names unrecognizable to even well-trained students of the North American flora. The following examples probably ring few bells of recognition to most American plant systematists: *Sabina monosperma*, *Bolophyta alpina*, *Breea arvensis*, *Psychrophila leptosepala*, *Cylindropyrum cylindricum*, *Nuttallia decapetala*, or *Seriphidium tridentatum*. These are recognized by botanists as *Juniperus monosperma*, *Parthenium alpinum*, *Cirsium arvensis*, *Caltha leptosepala*, *Aegilops cylindricum*, *Mentzelia decapetala*, and *Artemisia tridentata*. As an example at the family level, the authors segregate Alsinaceae from a larger and more inclusive Caryophyllaceae, which does not accord with other modern floristic (Larson 1986; Hartman 1993) or integrative family treatments (Cronquist 1981; Thorne 1992). These are but few of the many nomenclatural departures when compared with other North American treatments. To their credit, however, the authors indicate the more commonly used nomenclature in the text.

The lengthy exposition in an earlier edition regarding Weber's generic concepts has been removed from these volumes (Weber 1987: 9–13), but the effects of that philosophy are the primary basis for the large number of unfamiliar generic (and even family) names. Weber (1987: 12) once argued that "it is not necessary ... to produce detailed justification for adopting a particular taxonomic point of view (a name)". This statement suggests that the process of classification relies on (or did at one time) significant measures of experience and intuition. Today, classifications based even partly on intuition are much less tenable, and the creation of new names in the absence of new data has been criticized deservedly (Brown et al. 1993). It is true that Weber often has merely raised existing infrageneric taxon names up a notch to the generic level. However, a phylogenetic analysis is now seen by many (most?) practicing systematists as a necessary antecedent of revising classifications and invoking name changes, new or otherwise. Floras should largely reflect recent system-

atic revisions that are based squarely on sound data (see also Stevens 1990). This is a view that some taxonomists will still find uncomfortable, but it reflects what now appears to be a majority view. Unfortunately, the use of many of the generic names in these volumes has not been justified by recent monographic and/or phylogenetic work. On the other hand, I predict that at least some of the genera recognized by the authors ultimately will be upheld by phylogenetic work. If we cast concerns about nomenclature aside and look at the larger picture, however, we must be grateful for what we have: Modern and knowledgeable accounts of the higher vascular plants of Colorado, written by the person who knows them best. Residents of some other Western states are less fortunate, given the lack of up-to-date state Floras written by an expert with years of experience. I intend to buy my own copies, and suspect these volumes will be purchased and used by many others as well.

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